

Nanometer-Scale Metrology

Goal

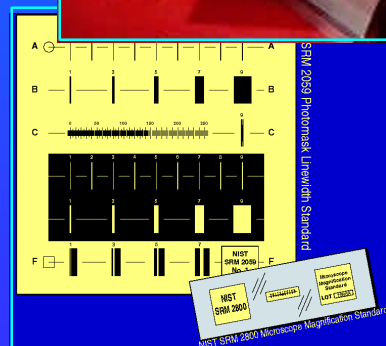
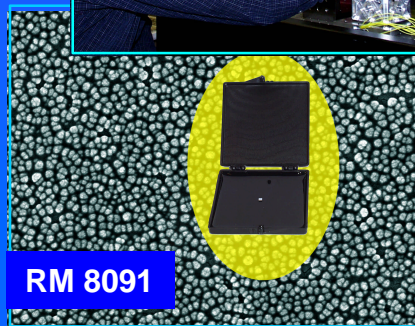
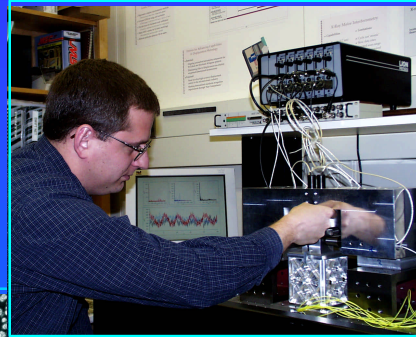
- To enable the microelectronics industry to sustain and improve its multibillion-dollar production, through their adoption of NIST traceable length standards and infrastructural metrology methodologies for nanometer to meter scale lengths sufficient to support the industry's production goal of 100 nm devices by 2005.

Deliverables

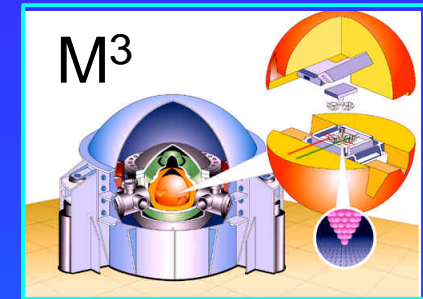
- Issue RM 8091, SRM 2800
- Issue RM 8090/SRM 2090
- Advanced, shape sensitive measuring methods for the microelectronics industry
- Provide "Best-in-the-World" Linescale Measurements

Customers and Collaborators

- ISMT, OMP, NASA, ANL, MIT, UNCC
- Schlumberger ATE, Dow Chemical,
- IBM, Photronics, Intel, AMD, KLA, Tencor, SPECTEL, Sterling Semiconductor,
- ADC Telecommunications, Compugraphics

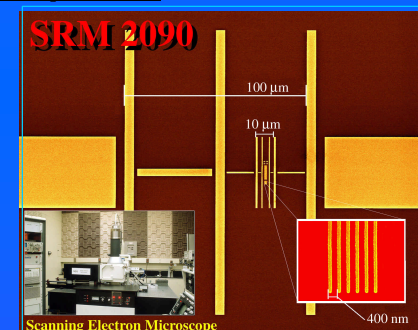


Research



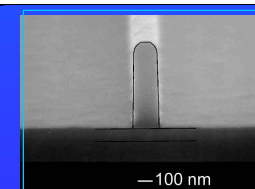
- 10 nm accuracy two-dimensional feature placement measurements over a 50mm by 50 mm area with sub-nanometer feature and measurement resolution

Development



- SRM development for instrument magnification and width calibration

Modeling and Simulation



- Advanced shape sensitive measurement methods and simulations